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**Title 409 - NEBRASKA DEPARTMENT OF ROADS - CONSTRUCTION DIVISION**

**Chapter 2 - Contracts, Proposal Forms, Ratings, and Qualifications of Contractors Proposing to Bid on State Highway Work - Metric System Measurements**

**001 ABBREVIATIONS AND DEFINITIONS USED ON CONTRACTS, PROPOSAL FORMS, RATINGS, AND QUALIFICATIONS OF CONTRACTORS PROPOSING TO BID ON STATE HIGHWAY WORK.** Whenever in the State of Nebraska, Department of Roads', *Standard Specifications for Highway Construction* or in other contract documents, the following terms or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

**001.01 ABBREVIATIONS:** Whenever the following abbreviations are used in the *Standard Specifications* or in the Plans, they are to be construed the same as the respective expressions represented:

AAN	American Association of Nurserymen.
AASHTO	American Association of State Highway and Transportation Officials.
ACI	American Concrete Institute.
AISC	American Institute of Steel Construction.
ANSI	American National Standards Institute.
ASTM	American Society for Testing and Materials.
AWG	American Wire Gage.
AWPA	American Wood Preservers' Association.
AWS	American Welding Society.
CFR	Code of Federal Regulations.
DBE	Disadvantaged Business Enterprises.
EBS	Electronic Bidding System.
FHWA	Federal Highway Administration.
IMSA	International Municipal Signal Association.
ICEA	Insulated Cable Engineers Association.
ITE	Institute of Transportation Engineers.
MUTCD	Manual on Uniform Traffic Control Devices for Streets and Highways.
NDR	Nebraska Department of Roads.
NEC	National Electrical Code.
NEMA	National Electrical Manufacturer's Association.
SAE	Society of Automotive Engineers.
SSPC	Steel Structures Painting Council.
UL	Underwriters Laboratories.
VEP	Value Engineering Proposal.

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001.02 Common engineering and construction abbreviations for measurements and work items are:

Items of Work and Units of Measurement

cd	Candela
cm	Centimeter
Conc.	Concrete
m <sup>3</sup>	Cubic Meter
m <sup>3</sup> /s	Cubic Meters per Second
ea	Each
h	Hour
Hz	Hertz
J	Joule
kg	Kilogram
km/h	Kilometers per hour
kN	Kilonewton
kPa	Kilopascal
L	Liter
L/h	Liters per Hour
L/min.	Liters per Minute
L/s	Liters per Second
lm	Lumen
LS	Lump Sum
lx	Lux
Mg	Megagram
MHz	Megahertz
MPa	Megapascal
m	Meter
μm	Micrometer
mm	Millimeter
N	Newton
Pa	Pascal
PVC	Polyvinyl Chloride
s	Second
m <sup>2</sup>	Square Meter
StaM	Station
St.	Steel
W	Watt

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001.03 DEFINITIONS

001.04 ACCESS CONNECTION: Any roadway facility by means of which vehicles can enter or leave an arterial highway. Included are intersections at grade, private driveways, and ramps or separate lanes connecting with cross streets or frontage roads.

001.05 ADDENDUM: A written and/or graphic document, issued to all bidders and identified as an addendum prior to bid opening, which modifies or supplements the bid documents and becomes a part of the contract.

001.06 ADVERTISEMENT: A public announcement inviting bids for work to be performed or materials.

001.07 ARTERIAL HIGHWAY: A highway primarily for through traffic, usually on a continuous route.

001.08 AUXILIARY LANE: The portion of the roadway adjoining the traveled way for parking, speed change, or for other purposes supplementary to through traffic movement.

001.09 AWARD: The decision of the Department to accept the proposal of the lowest responsible bidder for the work, subject to the execution and approval of a satisfactory contract therefore and bond to secure the performance thereof, and to such other conditions as may be specified or otherwise required by law.

001.10 BACKSLOPE: The surface of a cut that slopes downward toward the roadway.

001.11 BALANCE FACTOR: A ratio used to equate the amount of excavation to the amount of fill. Excavation generally will exceed the amount of fill because, in handling, soil shrinkage occurs.

001.12 BIDDER: Any individual, firm, corporation, or joint venture of individuals, firms, or corporations submitting a proposal for the work contemplated, acting directly or through a duly authorized representative.

001.13 BORROW SITE: The source of approved material required for the construction of embankments, or other portions of earthwork requirements, from locations shown in the Plans or approved by the Engineer.

001.14 BRIDGE: A structure, including supports, erected over a depression or any obstruction, as a water course, highway, or railway, and having a track or passageway for carrying traffic or other moving loads and having a length measured along the centerline of a roadway of more than 6.0 m between undercopings of abutments or extreme ends of openings for multiple boxes.

001.15 BRIDGE LENGTH: The overall length along the centerline of the bridge from end to end of the bridge floor.

001.16 CALENDAR DAY: Every day shown on the calendar, including Sundays and holidays, beginning and ending at midnight.

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**001.17 CHANGE ORDER:** A written order issued by the Engineer to the Contractor, covering changes within the scope of the contract.

**001.18 CHANNEL:** A natural or artificial waterway.

**001.19 COMMISSION:** The Nebraska State Highway Commission.

**001.20 CONTRACT:** The written agreement executed between the Department and/or any other political subdivision and the successful bidder, covering the performance of the work and the furnishing of labor and material, by which the contractor is bound to construct, reconstruct, improve, maintain and/or repair roads, bridges, and their appurtenances and furnish the labor and materials, and by which the Department is obligated to compensate him/her therefore at the mutually established and accepted rate or price.

The Contract includes the invitation for bids, proposal, contract form and contract bond, *Standard Specifications*, supplemental specifications, special provisions, general and detailed plans, notice to proceed, and any change orders and agreements that are required to complete the construction of the work in an acceptable manner, including authorized extensions thereof, all of which constitute one instrument.

**001.21 CONTRACT BOND:** The security executed by the Contractor and the Contractor's surety or sureties furnished to the Department to guarantee complete performance of the contract.

**001.22 CONTRACT ITEM:** An item of work specifically described and for which a price, either unit or lump sum, is provided. It includes the performance of all work and the furnishing of all labor, equipment, and materials described in the text of the *Standard Specification* item included in the contract or described in any subdivision of the text of the Supplemental Specification or Special Provision of the Contract.

**001.23 CONTRACTOR:** The prequalified individual or legal entity contracting with the Department and/or any other political subdivision for the construction, reconstruction, improvement, maintenance, and/or repair of roads, bridges and their appurtenances.

**001.24 CONTRACT PERIOD:** The period from the specified date of commencing work to the date that the specified number of working days or calendar days, as the case may be, has elapsed, both dates inclusive, or from the specified date of commencing work to the specified date for completion, both dates inclusive, as specified in the contract.

**001.25 CONTRACT TIME OR COMPLETION DATE:** The number of working or calendar days specified in the proposal as the time allowed for the completion of the work contemplated in the Contract, including authorized time extensions. When a calendar date of completion is shown in the proposal, in lieu of a number of working or calendar days, the work contemplated shall be completed by that date.

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001.26 CONTROL OF ACCESS: The condition where the right of owners or occupants of abutting land or other persons to access, light, air, or view in connection with a highway is fully or partially controlled by public authority.

001.26A FULL CONTROL OF ACCESS: The authority to control access is exercised to give preference to through traffic by providing access connections with selected roads only and by prohibiting crossings at grade or direct private driveway connections.

001.26B PARTIAL CONTROL OF ACCESS: The authority to control access is exercised to give preference to through traffic to a degree that, in addition to the access connections with selected public roads, there may be some crossings at grade and some private driveway connections.

001.27 COUNTY: The County in which the work is to be done, represented by its Board of Commissioners or Supervisors. Reference to any County officer shall be taken to mean such officer of the County as now defined.

001.28 CULVERT: Any structure not classified as a bridge which provides an opening under any roadway.

001.29 CURRENT CONTROLLING OPERATION: The operation that must be performed on the current day to prevent delay in the final completion of the work.

001.30 DEPARTMENT: The Nebraska Department of Roads.

001.31 DETOUR: A temporary official route using existing roads to divert traffic around a roadway project. Detours are maintained and marked by the State or other proper authority.

001.32 DIVIDED HIGHWAY: A highway with separated roadways for traffic in opposite directions.

001.33 EARTHWORK MEASURED-IN-EMBANKMENT: The calculated volume of the embankment shown in the Plans where balance factors do not apply.

001.34 EASEMENT (RIGHT-OF-WAY): A right acquired by public authority to use or control property for a designated highway purpose.

001.35 EMBANKMENT: A raised soil structure.

001.36 EMPLOYEE: A person working on a Department project for the Contractor.

001.37 ENGINEER: The Director-State Engineer, acting directly or through a representative duly authorized by the Director-State Engineer, such representative acting within the scope of the particular duties assigned to him/her or of the authority given to him/her.

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**001.38 EQUIPMENT:** All machinery and supplies necessary for the construction, performance, and completion of the Contract.

**001.39 EXPRESSWAY:** A divided arterial highway for through traffic with full or partial control of access and which may have grade separations at intersections.

**001.40 EXTRA WORK:** An item of work and/or provisions for materials not included in the original contract.

**001.41 FEDERAL AGENCIES AND OFFICERS:** Agencies, officers, and their successors of the United States Government.

**001.42 FORESLOPE:** The surface sloping downward and away from shoulder line.

**001.43 FREEWAY:** An expressway with full control of access.

**001.44 FRONTAGE STREET OR FRONTAGE ROAD:** A local street or road adjacent to a highway for service to abutting property.

**001.45 GRADE SEPARATION:** A crossing of two highways at different elevations.

**001.46 HIGHWAY:** A road or street, including the entire area within the right-of-way, which has been designated a part of the State Highway System.

**001.47 HOLIDAYS:** Nebraska legal holidays occur on January 1, the third Monday in January and February, the last Friday in April, the last Monday in May, July 4, the first Monday in September, the second Monday in October, November 11, the fourth Thursday and the following Friday in November, and December 25. If the date falls on Sunday, the following Monday shall be the holiday. If the date falls on Saturday, the preceding Friday shall be the holiday. All dates are subject to possible revision by State Statute or by proclamation of the Governor.

**001.48 INSPECTOR:** The Engineer's authorized representative assigned to make detailed inspections of the work performed and materials furnished by the Contractor.

**001.49 LABORATORY:** The testing laboratory of the Department or any other testing laboratory which may be designated by the Engineer.

**001.50 LETTING:** The public opening and reading of bids received from prequalified contractors for work advertised by the Department.

**001.51 MATERIALS:** Any substance specified for use in the construction of the project. All materials shall be new unless otherwise stated in the Plans or Special Provisions.

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**001.52 MEDIAN:** *The portion of a divided highway separating the traveled ways.*

**001.53 MEDIAN LANE:** *A speed-change lane within the median to accommodate left-turning vehicles.*

**001.54 MITIGATION SITE:** *Those areas that will replace waterways, including wetlands, impacted in highway construction. The mitigation site must be constructed to insure that it meets the criteria of a wetland.*

**001.55 NOTICE TO CONTRACTORS:** *The advertisement of the provisions, requirements, and instructions pertaining to the work on which bids are to be received, manner and time of submitting proposals, quantities of major items of work required, as prepared for the information of bidders.*

**001.56 NOTICE TO PROCEED:** *A written notice to the Contractor establishing the date the Contractor shall begin the contracted work.*

**001.57 PAVEMENT STRUCTURE:** *The combination of sub-base, base course, foundation course, and surface course placed on a subgrade to support the traffic load and distribute it to the roadbed.*

**001.58 PLANS:** *The official Plans, profiles, typical cross sections, general cross sections, summary of soil and materials survey information, aerial photo maps, earthwork computations, design data, and supplemental drawings, or exact reproductions thereof, approved by the Engineer, which show the location, character, dimensions and details of the work to be done, and which are to be considered as a part of the contract supplementary to the *Standard Specifications*.*

**001.59 POINT OF DELIVERY:** *A place, determined by the contract or the Engineer, where materials will be received or placed.*

**001.60 PROFILE GRADE:** *The trace of a vertical plane intersecting the top of the proposed wearing surface, usually along the longitudinal centerline of the roadbed. Profile grade means either elevation or gradient of the trace depending on the context.*

**001.61 PROJECT:** *The specific section of the highway together with all appurtenances and construction to be performed thereon under the contract.*

**001.62 PROPOSAL:** *A bidder's written or electronic offer on Department furnished forms to perform stated work at the quoted prices.*

**001.63 PROPOSAL GUARANTY:** *The security furnished with a bid to assure that the bidder will enter into a contract for the work if the proposal is accepted.*

**001.64 PROPOSAL PACKAGE:** *Department provided and approved forms on which the Department requires bids be prepared and submitted.*

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001.65 QUALITY ASSURANCE: All those planned and systematic actions the Department takes to determine that a product or service will satisfy specified quality requirements.

001.66 QUALITY CONTROL: All Contractor/supplier operational techniques and activities that are performed or conducted to fulfill the Contract requirements.

001.67 RAMP: A connecting roadway between two intersecting highways at an interchange.

001.68 RIGHT-OF-WAY: Real property used for transportation purposes.

001.69 ROAD: A public way for the purposes of vehicular travel, including the entire area within the right-of-way. A road designated as part of the State Highway System may be called a highway, while a road in an urban area may be called a street.

001.70 ROADBED: That portion of a roadway upon which the base course, surface course, shoulders and medians are constructed. Divided highways are considered to have two roadbeds.

001.71 ROADSIDE: The area within the right-of-way, excluding the traveled way, auxiliary lanes, and the shoulders.

001.72 ROADSIDE DEVELOPMENT: Improvements placed or constructed for the preservation or enhancement of landscape features, rehabilitation and prevention of erosion, and increasing the effectiveness and enhancing the appearance of the highway.

001.73 ROADWAY: The portion of the highway, including shoulders, for vehicular use.

001.74 ROADWAY WIDTH: The clear width measured at right angles to the centerline and measured between the bottom inside face of the curbs, rails, or shoulder breaks.

001.75 SETBACK LINE: A line outside of the right-of-way, established by public authority, on the highway side of which the erection of buildings or other permanent improvements is controlled.

001.76 SHOOFLY: A Contractor built, marked, and maintained route around a specific construction site. When an entrance and/or exit ramp must be built to provide access to a "DETOUR," the ramps will be considered to be shooflies. Maintenance excludes snow removal.

001.77 SHOULDERS: The portion of the roadway contiguous with the traveled way for accommodation of vehicles stopped for emergencies and for lateral support of the pavement structure.

001.78 SOIL: Those materials listed in Bureau of Reclamation and Corps of Engineers' Unified Soil Classification System.



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001.79 SPECIAL PROVISIONS: Additions and revisions to the Nebraska *Standard Specifications for Highway Construction* and Supplemental Specifications covering conditions peculiar to an individual project.

001.80 SPECIFICATIONS: The general term comprising all the directions, provisions, and requirements contained in the Nebraska *Standard Specifications for Highway Construction*, together with such as may be added or adopted as Supplemental Specifications or Special Provisions, all of which are necessary for the proper performance of the Contract.

001.81 SPEED-CHANGE LANE: An auxiliary lane, including tapered areas, primarily for the acceleration or deceleration of vehicles entering or leaving the through traffic lanes.

001.82 STATE: The State of Nebraska acting through its authorized representatives.

001.83 STATION: The point on the ground which is part of the line defining the profile of the survey. Distance between full stations is 100 m. The beginning point of a survey is station 0, unless otherwise designated.

001.84 STREET: A public way for the purpose of vehicular travel in a city or village and shall include the entire area within the right-of-way.

001.85 SUBCONTRACTOR: Any individual, firm, or corporation to whom the Contractor or Subcontractor, with the written consent of the Department, sublets any part of the contract.

001.86 SUBGRADE: The upper portion of the roadbed, upon which the pavement structure and shoulders are constructed. Usually the subgrade depth is 150 mm.

001.87 SUBSIDIARY: Work and material requirements that are not measured for payment and for which no direct payment is made. The Contractor must include the cost of performing these requirements in another item that is identified in the Plans or *Specifications*.

001.88 SUBSTRUCTURE: The part of the structure below:

001.88A The simple and continuous span bearings.

001.88B The bottom of the girder or bottom slab soffit.

001.88C Construction joints at the top of vertical abutment members or rigid frame piers.

Substructures include endwalls, wingwalls, barriers, railings attached to the wingwalls, and cantilever barriers and railings.

001.89 SUPERINTENDENT: The Contractor's authorized representative in responsible charge of the work.

001.90 SUPERSTRUCTURE: The entire structure above the substructure.

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001.91 SUPPLEMENTAL AGREEMENTS: Written agreements executed by the Contractor and the Department or other contracting agency, subsequent to having entered into the contract, covering alterations in the Plans or unforeseen items of construction.

001.92 SUPPLEMENTAL SPECIFICATIONS: Specifications adopted subsequent to the current edition of the State of Nebraska, Department of Roads', *Standard Specifications for Highway Construction*. Supplemental Specifications shall prevail over those published in the State of Nebraska, Department of Roads', *Standard Specifications for Highway Construction* whenever in conflict therewith.

001.93 SURETY: The corporate body registered and/or licensed to do business in Nebraska bound with and for the Contractor for the acceptable performance of the contract, the completion of the work, and for the payment of all just claims arising therefrom.

001.94 TRAFFIC LANE: The portion of a traveled way for the movement of a single line of vehicles.

001.95 TRAVELED WAY: The portion of the roadway for the movement of vehicles, exclusive of shoulders and auxiliary lanes.

001.96 UNBALANCED BID, MATERIALLY: A bid that generates a reasonable doubt that award to the bidder submitting a mathematically unbalanced bid will result in the lowest ultimate cost to the Department. May cause a bid to be disqualified.

001.97 UNBALANCED BID, MATHEMATICALLY: A bid containing lump sum or unit bid items that do not reflect reasonable actual costs plus a reasonable proportionate share of the bidder's anticipated profit, overhead costs, and other indirect costs.

001.98 VALUE ENGINEERING PROPOSAL: A proposal developed by the Contractor for modifying the Plans, Specifications, or other requirements of the Contract for the purpose of reducing the total cost of the construction without reducing the design capacity or quality of the finished product.

001.99 WEIGHT: Weight is a measure of force in the metric system and the units are Newtons. Mass is measured in grams. Most scales used in the highway construction industry measure an object's gravitational force at the scale location. However, the unit of measurement on most metric scales is grams and these readings are generally not corrected for the existing gravitational force to allow conversion of the measured force to the object's true mass.

Certified scale measurements are considered by the Department to be acceptable measures of an object's mass. The use of the term weight shall be avoided.

001.100 WETLANDS: Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation

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typically adapted for life in saturated soil conditions. (Wetlands generally include swamps, marshes, bogs, and similar areas.)

**001.101 WORK:** Work shall be understood to mean the furnishing of all labor, materials, equipment, and other incidentals necessary or convenient to the successful completion of the project by the Contractor and the carrying out of all duties and obligations imposed by the Contract.

**001.102 WORKING DAY**

**001.102A** A working day is any calendar day, Monday through Friday, when the Contractor is not prevented by weather, soil conditions, or other conditions beyond his/her control from working on the current controlling operation for more than 50 percent of the hours in his/her normal schedule with more than 80 percent of his/her normal working force.

**001.102B** If any work requiring engineering or inspection by the Department is performed on a Sunday, New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the day after Thanksgiving Day, or Christmas Day, then that day will be considered a working day.

**001.102C** Except as noted in Section 001.102B above, Saturdays, Sundays, and Nebraska holidays will not be counted as working days.

**001.103 WORKING DRAWINGS:** Shop drawings, shop plans, erection plans, falsework plans, framework plans, cofferdam cribbing and shoring plans, bending diagrams for reinforcing steel, or any other supplementary plans or similar data, including a schedule of submittal dates for working drawings where specified, which the Contractor must submit to the Engineer.

**001.104 WORK ORDER:** A written order directing the performance of work or furnishing of materials not included in the original contract.

**ANNOTATION**

**Title 409  
Chapter 2  
Section 001**

**Enabling Legislation  
39-102 and 39-1352  
Neb. Rev. Stat.**